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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------|------------------|
| 10/617,982   | 07/10/2003  | Shimon Hochbaum      | 200-65500 (2003-00209) | 4256             |
| 33402  | 7590        | 04/06/2005           | EXAMINER               |                  |
| LAW OFFICES OF MARK C. PICKERING<br>P.O. BOX 300<br>PETALUMA, CA 94953 |             |                      | WANG, QUAN ZHEN        |                  |
|  |             |                      | ART UNIT               | PAPER NUMBER     |
|  |             |                      | 2633                   |                  |

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/617,982 | <b>Applicant(s)</b><br>HOCHBAUM, SHIMON |  |
|                              | <b>Examiner</b><br>Quan-Zhen Wang    | <b>Art Unit</b><br>2633                 |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/10/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission (prior art fig. 1 of the instant application) in view of Fike et al. (U.S. Patent Application Publication US 2005/0013609 A1).

Regarding claims 1 and 6, the admission (prior art fig. 1 of the instant application) teaches an optical line terminal device (prior art fig. 1, OLT 110) comprising: an optical transmitter (prior art fig. 1, optical transmitter 112) that receives downstream information, and outputs a plurality of downstream light pulses that represent the downstream information (the instant application: page 3, lines 11-19); an optical receiver (prior art fig. 1, optical receiver 114) that receives a plurality of upstream light pulses and converts the upstream light pulses into upstream information (the instant application: page 3, lines 20-25); and a controller (prior art fig. 1, controller 120) connected to the optical transmitter and the optical receiver, the controller including: a memory (prior art fig. 1, memory 120A) having a plurality of first memory cells that store a first identification number (stored in the first row in table 134) and a second plurality of memory cells that store a second identification number (stored in the second row in

table 134), the first identification number representing a first optical device that is associated with a network end point, the second identification number representing a second optical device that is associated with the network end point (the instant application, page 5, lines 20-29); and a processor (prior art fig. 1, CPU 120B) connected to the memory that prepares the downstream information for the optical transmitter, and receives the upstream information from the optical receiver. The admission (prior art fig. 1 of the instant application) differs from the claimed invention in that the admission (prior art fig. 1 of the instant application) does not specifically teach that the second optical device being a replacement for the first optical device. However, it is well known in the art to have a replacement for an optical device having potential fault. For example, Fike teaches to have a replacement device for a faulty device in a network (paragraph 0114). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the second optical device to be the replacement device for the first optical device, as it is taught by Fike, in the system of the admission (prior art fig. 1 of the instant application) to minimize the interruption of the network service in case the first optical device malfunctions.

Regarding claims 2 and 7, the admission (prior art fig. 1 of the instant application) further teaches the downstream information includes the identification number when an optical device is connected to the network end point (the instant application, page 5, lines 20-29). Therefore, the downstream information includes the first identification number when the first optical device is connected to the network end point, and the

second identification number when the second optical device is connected to the network end point.

Regarding claims 3 and 8, admission (prior art fig. 1 of the instant application) further teaches that the first downstream information output by controller includes the active identity number of an optical network terminal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to remove the first identification number from the downstream information and replace with the second identification number when the first optical device fails to respond to the downstream information in order to send information data to the second optical device which replaces first optical device.

Regarding claims 4 and 9, admission (prior art fig. 1 of the instant application) further teaches that the first optical device is an optical network terminal (prior art fig. 1, ONT1).

Regarding claims 5 and 10, the second optical device is inherently an optical network terminal since the second optical device is the replacement of the first optical device.

2. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission (prior art fig. 1 of the instant application) in view of McBrearty et al. (U.S. Patent US 6,748,550 B2).

Regarding claim 11, the admission (prior art fig. 1 of the instant application) teaches a method of operating an optical line terminal (OLT), the method comprising the steps of: periodically sending a first message to a first optical device, the first message

including a first identification number of the optical device. When the optical device is physically connected to the network, the device receives the identity number message and responds to OLT within an allowed time period. The admission (prior art fig. 1 of the instant application) differs from the claimed invention in that the admission (prior art fig. 1 of the instant application) does not specifically teach that OLT determining whether the first optical device has failed to respond to a predetermined number of first messages; and sending a second message with a second identification number that represents a second optical device when the first optical device fails to respond to a number of first messages. However, it is well known in the art to use periodic signals to monitor failure of a device in a network and replace the device if it fails. For example, McBrearty teaches to use periodic heartbeat signal or "keep alive" signal to monitor if a device fails in a computer system and the device will be replaced if it fails (column 1, lines 27-50). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to determining whether the first optical device has failed to respond to a predetermined number of first messages, as it is taught by McBrearty, and sending a second message with a second identification number that represents a second optical device when the first optical device fails to respond to a number of first messages in order to replace the faulty first optical device.

Regarding claim 12, admission (prior art fig. 1 of the instant application) further teaches that when a network end point is to be added to network, the active identity number of the optical network terminal to be connected to the network end point to provide service to the end user is added to the table in the memory in a manner that

establishes a relationship between the network end point and the active identity number of the ONT (the instant application: page 6, lines 9-14). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to determine if the second optical device has responded to the second message with the second identification number; and mark the second identification number as an active identification number when the second optical device responds to the second message in order to properly replace the faulty first optical device with a working second optical device. Claims 13-15, are duplication steps of claim 12.

Regarding claim 16, admission (prior art fig. 1 of the instant application) further teaches that the first optical device is an optical network terminal (prior art fig. 1, ONT1).

Regarding claim 17, the second optical device is inherently an optical network terminal since the second optical device is the replacement of the first optical device.

3. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admission (prior art fig. 1 of the instant application) in view of Fike et al. (U.S. Patent Application Publication US 2005/0013609 A1) and further in view of Daudelin et al. (U.S. Patent US 6,591,389 B1).

Regarding claim 18, the admission (prior art fig. 1 of the instant application) teaches a method of servicing a network, the network having a first optical device associated with a network end point (prior art fig. 1, ONT1), the first optical device having a first identification number (the instant application, page 6, lines 9-23), the method comprising the steps of: associating a second identification number with the network end point (the instant application, page 6, lines 9-23). The admission (prior art

Art Unit: 2633

fig. 1 of the instant application) differs from the claimed invention in that the admission (prior art fig. 1 of the instant application) does not specifically teach that the second optical device is a replacement for the first optical device. However, it is well known in the art to have a replacement for an optical device having potential fault. For example, Fike teaches to have a replacement device for a faulty device in a network (paragraph 0114). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the second optical device to be the replacement device for the first optical device, as it is taught by Fike, in the system of the admission (prior art fig. 1 of the instant application) in order to minimize the interruption of the network service in case the first optical device malfunctions.

The modified system of the admission (prior art fig. 1 of the instant application) and Fike further differs from the claimed invention in that the admission (prior art fig. 1 of the instant application) and Fike do not specifically teach dispatching a technician to the network end point to service the network end point. However, it is well known business strategy in the art to dispatch a technician to the network end point to service the network end point because of the complexity of the electronics and optical components. For example, Daudelin discloses to dispatch a technician to fix or replace a failed circuit pack (column 8, lines 24-28). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to dispatch a technician, as it is disclosed by Daudelin, for the modified transmission system of the admission (prior art fig. 1 of the instant application) and Fike in order to minimize the interruption of the network service in case the first optical device malfunctions.



Regarding claim 19, the modified system of the admission (prior art fig. 1 of the instant application), Fike, and Daudelin further differs from the claimed invention in that the admission (prior art fig. 1 of the instant application), Fike, and Daudelin do not specifically teach removing the first optical device from the network end point; and installing the second optical device to the network end point. However, Daudelin discloses to dispatch a technician to replace a failed circuit pack (column 8, lines 26-28). The process inherently includes removing the faulty device and installing the replacement device. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to remove the first (faulty) optical device from the network end point; and installing the second (the replacement) optical device, as it is disclosed by Daudelin, at the network end point of the modified system of the admission (prior art fig. 1 of the instant application) Fike, and Daudelin in order to minimize the interruption of the network service in case the first optical device malfunctions.

Regarding claim 20, the modified system of the admission (prior art fig. 1 of the instant application), Fike, and Daudelin further differs from the claimed invention in that the admission (prior art fig. 1 of the instant application), Fike, and Daudelin do not specifically teach: inspecting the first optical device and determining whether the first optical device can be fixed within a predefined period of time; fixing the first optical device when the first optical device can be fixed within the predefined period of time; removing the first optical device from the network end point when the first optical device can not be fixed within the predefined period of time; and installing the second optical

device to the network end point after the first optical device has been removed.

However, Daudelin discloses to dispatch a technician to fix, or replace a failed circuit pack (column 8, lines 26-28). The process implicitly includes the steps of inspecting the device and determining whether the device can be fixed within a predefined period of time; fixing the device when the device can be fixed within the predefined period of time; removing the device if the device can not be fixed within the predefined period of time; and installing the replacement after the device has been removed. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to inspect the first optical device and determining whether the first optical device can be fixed within a predefined period of time; fix the first optical device when the first optical device can be fixed within the predefined period of time; remove the first optical device from the network end point when the first optical device can not be fixed within the predefined period of time; and install the second optical device to the network end point after the first optical device has been removed at the network end point of the modified system of the admission (prior art fig. 1 of the instant application), Fike, and Daudelin in order to minimize the interruption of the network service in case the first optical device malfunctions.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sutherland et al. (U.S. Patent Application Publication US 2003/0177215 A1) disclose an apparatus for uses in a point-to-multipoint network. Sala et al. (U.S. Patent Application Publication US 2003/0152389 A1) disclose filtering and

Art Unit: 2633

forwarding frames at an optical line terminal. Garg et al. (U.S. Patent Application Publication US 2003/0078947 A1) disclose methods for assigning unique identifiers in a distributed fault tolerant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw  
3/31/05

  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**